

What is claimed is:

1. A method of using a fluid ejection device to substantially accurately dispense a pharmaceutical at a predetermined dosage within a relative standard deviation of less than about 15%.
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2. The method of claim 1 wherein the pharmaceutical includes an active pharmaceutical ingredient which is considered to be substantially high potent, and of a substantially low dosage.
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3. The method of claim 2 wherein the ingredient is digoxin.
4. The method of claim 3 wherein a variation in content uniformity of the pharmaceutical is less than about 15% for dosages of about 1.5 mg per dose
15 of digoxin.
5. The method of claim 1 wherein the pharmaceutical is capable of being dispensed onto at least two mediums, wherein the relative standard deviation is less than about 15% for the predetermined dosage between the at least two
20 mediums.
6. The method of claim 1 wherein drops from the fluid ejection device are used to prepare a tablet with about a 0.125 mg dosage of digoxin.
- 25 7. The method of claim 6 wherein the drops from the fluid ejection device have a concentration of about 200 mg/ml, and a drop volume of about 30 pL per drop.
- 30 8. The method of claim 1 wherein the relative standard deviation is in a range of about 5% to about 9%.
9. The method of claim 8 wherein the relative standard deviation is in a range of about 5.7% to about 8.2%.

10. The method of claim 9 wherein the relative standard deviation is in a range of about 7% to about 7.5%.

5 11. A method of accurately reproducing fluid jet drops of an active pharmaceutical ingredient at a predetermined dosage with a variation in reproducibility of less than about 15%.

10 12. The method of claim 11 wherein the drops are dispensed onto a medium.

15 13. The method of claim 12 wherein a concentration of the active pharmaceutical ingredient remains substantially constant from media to media with a deviation of less than about 15%.

14. The method of claim 11 wherein the active pharmaceutical ingredient is substantially highly potent and substantially of a low dosage.

20 15. The method of claim 11 wherein the ingredient is digoxin.

16. The method of claim 11 wherein the variation in reproducibility is in a range of about 5% to about 9%.

25 17. The method of claim 11 wherein the variation in reproducibility is in a range of about 5.7% to about 8.2%.

18. The method of claim 11 wherein the variation in reproducibility is in a range of about 7% to about 7.5%.

30 19. A method of testing fluid ejection devices to evaluate dispensing accuracy, reproducibility and repeatability of pharmaceutical dosages comprising:

preparing about 200 mg/ml of a first solution of solvent of 2-P:EtOH
80:20 (V/V) and an active pharmaceutical ingredient;

firing a first fluid ejection device to eject the solution onto a first strip;
washing the strip with DI water to form a second solution;

- 5 UV analyzing the second solution;
cleaning an orifice plate of the first device after a period of time; and
repeating the above steps.

20. The method of claim 19 wherein the film is aluminum and coated
10 with Teflon®.

21. The method of claim 19 wherein the orifice plate is cleaned after 2
hours.

15 22. The method of claim 19 wherein at least two fluid ejection devices
are fired.

23. A fluid ejection device dispensing a pharmaceutical solution
comprising:

20 means for substantially accurately dispensing a pharmaceutical at a
predetermined dosage within a relative standard deviation of less than about
15%.

24. The device of claim 23 wherein the pharmaceutical includes a
25 substantially high potency, substantially low dosage active pharmaceutical
ingredient.

25. The device of claim 23 wherein the means for dispensing includes an
active pharmaceutical ingredient dissolved in a vehicle.

30 26. The device of claim 25 wherein the ingredient is digoxin.

27. The device of claim 23 wherein the pharmaceutical is capable of being dispensed onto at least two mediums, wherein the relative standard deviation is less than about 15% for the predetermined dosage on the at least two mediums.

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28. The device of claim 23 wherein the relative standard deviation is in a range of about 5% to about 9%.

29. The device of claim 23 wherein the relative standard deviation is in a
10 range of about 5.7% to about 8.2%.

30. The device of claim 23 wherein the relative standard deviation is in a range of about 7% to about 7.5%.

15 31. The device of claim 25, wherein the active pharmaceutical ingredient has a solubility of at least about 30 mg/ml in the vehicle.